

What is claimed is;

1. A white balance adjustment circuit comprising:

a first gain adjuster that adjusts a signal level of  
a second image-capturing signal provided by an image-capturing  
5 element which captures an image of a subject through a  
spectroscopic element and outputs a first image-capturing  
signal corresponding to a first color, the second  
image-capturing signal corresponding to a second color and  
a third image-capturing signal corresponding to a third color;  
10 a second gain adjuster that adjusts a signal level of  
the third image-capturing signal provided by the  
image-capturing element; and  
a white balance adjuster that adjusts a signal ratio  
among the first image-capturing signal, the second  
15 image-capturing signal having been adjusted by the first gain  
adjuster and the third image-capturing signal having been  
adjusted by the second gain adjuster to achieve a predetermined  
ratio.

20 2. A white balance adjustment circuit according to claim  
1, further comprising:

a color temperature detector that detects a color  
temperature of the subject; and  
an instructing device that issues individual  
25 instructions for the first gain adjuster and the second gain

adjuster to perform adjustment in correspondence to the color temperature detected by the color temperature detector.

3. A white balance adjustment circuit according to claim  
5 2, wherein:

when the color temperature detected by the color temperature detector is lower than a predetermined value, the instructing device issues instructions for the first gain adjuster and the second gain adjuster to set respective gains  
10 to predetermined initial values and when the color temperature is equal to or higher than the predetermined value, the instructing device issues instructions for the first gain adjuster and the second gain adjuster to set the gains lower than the respective initial values.

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4. A white balance adjustment circuit according to claim  
2, further comprising:

a third gain adjuster that adjusts a signal level of the first image-capturing signal provided by the  
20 image-capturing element; and

a brightness detector that detects a brightness level of the subject, wherein:

when the brightness detected by the brightness detector is equal to or higher than a predetermined brightness value,  
25 the instructing device issues an instruction for the third

gain adjuster to set a gain adjusted thereby to a predetermined initial value and when the brightness level is lower than the predetermined brightness value, the instruction device issues an instruction for the third gain adjuster to set the gain  
5 higher than the initial value.

5. A white balance adjustment circuit according to claim 3, further comprising:

a third gain adjuster that adjusts a signal level of  
10 the first image-capturing signal provided by the image-capturing element; and

a brightness detector that detects a brightness level of the subject, wherein:

when the brightness detected by the brightness detector  
15 is equal to or higher than a predetermined brightness value, the instructing device issues an instruction for the third gain adjuster to set a gain adjusted thereby to a predetermined initial value and when the brightness level is lower than the predetermined brightness value, the instruction device issues  
20 an instruction for the third gain adjuster to set the gain higher than the initial value.

6. A white balance adjustment circuit according to claim 1, wherein:

25 the first color is G color, and one of either the second

color or the third color is R color and the other is B color.

7. A white balance adjustment circuit comprising:

a first gain adjuster that adjusts a signal level of  
5 a first image-capturing signal provided by an image-capturing  
element which captures an image of a subject through a  
spectroscopic element and outputs the first image-capturing  
signal corresponding to a first color, a second image-capturing  
signal corresponding to a second color and a third  
10 image-capturing signal corresponding to a third color;

a second gain adjuster that adjusts a signal level of  
the second image-capturing signal provided by the  
image-capturing element;

a third gain adjuster that adjusts a signal level of  
15 the third image-capturing signal provided by the  
image-capturing element;

a signal level detector that individually detects the  
signal level of the first image-capturing signal having been  
adjusted by the first gain adjuster, the signal level of the  
20 second image-capturing signal having been adjusted by the  
second gain adjuster and the signal level of the third  
image-capturing signal having been adjusted by the third gain  
adjuster; and

a white balance controller that individually controls  
25 the first gain adjuster, the second gain adjuster and the third

gain adjuster so as to achieve a predetermined ratio among the individual image-capturing signal levels detected by the signal level detector.

- 5    8.    A white balance adjustment circuit according to claim 7, further comprising:

        a color temperature detector that detects a color temperature of the subject; and

        an instructing device that issues instructions for the  
10    second gain adjuster and the third gain adjuster to perform adjustment in correspondence to the color temperature detected by the color temperature detector.

9.    A white balance adjustment circuit according to claim  
15    8, wherein:

        when the color temperature detected by the color temperature detector is lower than a predetermined value, the instructing device issues instructions for the second gain adjuster and the third gain adjuster to set respective gains  
20    to predetermined initial values and when the color temperature is equal to or higher than the predetermined value, the instructing device issues instructions for the second gain adjuster and the third gain adjuster to set the gains lower than the respective initial values.

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10. A white balance adjustment circuit according to claim 8, further comprising:

a brightness detector that detects a brightness level of the subject, wherein:

5 when the brightness detected by the brightness detector is equal to or higher than a predetermined brightness value, the instructing device issues an instruction for the first gain adjuster to set a gain adjusted thereby to a predetermined initial value when the detected brightness level is lower than  
10 the predetermined brightness value, the instruction device issues an instruction for the first gain adjuster to set the gain higher than the initial value.

11. A white balance adjustment circuit according to claim 15 9, further comprising:

a brightness detector that detects a brightness level of the subject, wherein:

when the brightness detected by the brightness detector is equal to or higher than a predetermined brightness value,  
20 the instructing device issues an instruction for the first gain adjuster to set a gain adjusted thereby to a predetermined initial value when the detected brightness level is lower than the predetermined brightness value, the instruction device issues an instruction for the first gain adjuster to set the  
25 gain higher than the initial value.

12. A white balance adjustment circuit according to claim 7, wherein:

the first color is G color, and one of either the second color or the third color is R color and the other is B color.

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13. An image-capturing apparatus having the white balance adjustment circuit according to claim 1.

14. An image-capturing apparatus having the white balance  
10 adjustment circuit according to claim 7.